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## **AUCTIONING OF EMISSION ALLOWANCES IN GERMANY**

**REPORT ON THE SECOND QUARTER 2010**

## IMPRINT

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## CONTENTS

1. Report on the second quarter 2010.....	5
1.1. Market surveillance report .....	5
1.2. Overview of the second quarter .....	6
1.3. Overview of the current year .....	9
2. Bidder Participation .....	11
2.1. Participation.....	11
2.2. Quantitative demand.....	14
2.3. Bid and clearing prices .....	15
3. Auctions and the secondary market.....	17
3.1. Trading volume on the secondary market.....	17
3.2. Clearing prices and price development on the secondary market .....	18
4. Excursus: Auctions in the third trading period.....	24
4.1. Scope .....	24
4.2. Concept .....	24
4.3. Procedure .....	25
4.4. Participation.....	25

## TABLES

Table 1: Overview of the second quarter 2010 .....	7
Table 2: Overview of auction dates in the second quarter 2010 (spot).....	8
Table 3: Overview of auction dates in the second quarter 2010 (futures) .....	9
Table 4: General survey of the current year 2010 .....	10
Table 5: Clearing prices and reference prices immediately before the end of the bidding window (spot) .....	22
Table 6: Clearing prices and reference prices immediately before the end of the bidding window (futures) .....	23

## FIGURES

Figure 1: Bidders and successful bidders in the second quarter 2010 (spot).....	13
Figure 2: Bidders and successful bidders in the second quarter 2010 (futures) .....	13
Figure 3: Bid volumes on the futures and spot markets in the second quarter 2010.....	15
Figure 4: Differences between maximum bid and clearing price in the second quarter 2010 .....	16
Figure 5: Trading volume on the secondary market and relative share of spot and futures auctions in the second quarter 2010.....	18
Figure 6: Clearing prices and trading prices on the BlueNext spot market in the second quarter 2010 (spot).....	19
Figure 7: Clearing prices and ECX emissions index (Dec 2010 future) in the second quarter 2010 (futures).....	21

## 1. REPORT ON THE SECOND QUARTER 2010

With effect from January 2010 the Federal Republic of Germany offers an annual total of 40 million emission allowances (EUAs) for auction. The auctions are conducted weekly in 2010 and 2011 on the spot and futures markets of the European Energy Exchange (EEX) in Leipzig. The German Emissions Trading Authority (DEHSt) at the Federal Environment Agency has commissioned the state-owned KfW Banking Group (KfW) to act as vendor of emission allowances on behalf of the Federal Government. Further updated information on the conditions of participation is available on the EEX Website.<sup>1</sup> Earlier periodic reports are available on the DEHSt Website.<sup>2</sup>

### 1.1. Market surveillance report

In order to guarantee above-board market activities free of manipulation on the EEX, continuous surveillance is conducted by an independent Market Surveillance Office (*Handelsübnerwachungsstelle, HÜSt*) as required under German law. HÜSt reports to the DEHSt in regular internal reports on the results of its surveillance activities. HÜSt reported as follows on auctions in the second quarter of 2010:

“The auctions of emission allowances at the EEX on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety in the second quarter of 2010 took place following the defined procedure and without any disturbances. For this period, the Market Surveillance of the EEX could not detect any irregularities, and especially no behaviour of bidders that aims at manipulating the auction price.”

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<sup>1</sup> <http://www.eex.com/en/EEX/Products%20%26%20Fees/EUA%20Primary%20Market%20Auction>

<sup>2</sup> [http://www.dehst.de/cIn\\_153/nn\\_484552/EN/EmissionsTrading/Auctioning/Auctioning\\_node.html?\\_nnn=true](http://www.dehst.de/cIn_153/nn_484552/EN/EmissionsTrading/Auctioning/Auctioning_node.html?_nnn=true)

## Participation, Auction Calendar and Procedure

Weekly auctions of futures and spot contracts on the EEX are a part of regular stock exchange trading. Participation is possible either directly as EEX Member or indirectly via a broker or as a client of an EEX Member. This ensures that small and medium-sized enterprises, which do not have their own trading department, are also able to participate in auctions. Exchange members already admitted to emissions trading on the EEX can participate in the weekly auctions at no additional cost and without separate fixed costs.

In the years 2010 and 2011, in separate auctions between January and October, 300,000 allowances will be auctioned for immediate delivery ("spot contract") on Tuesdays, and 570,000 for delivery in December of the current year ("futures contract") on Wednesdays. From November of each year, 870,000 remaining allowances will be auctioned weekly on the spot market. The dates of auction are published in the EEX Auction Calendar:

[http://www.eex.com/de/document/70561/2009\\_12\\_15\\_BMU%20Auction%20Calendar001.pdf](http://www.eex.com/de/document/70561/2009_12_15_BMU%20Auction%20Calendar001.pdf)

The auction procedure is broadly laid down in the Ordinance on the Auctioning of Emission Allowances (*Emissionshandels-Versteigerungsverordnung, EHVV 2012*). A single-round, uniform-price procedure is applied at auctions. All successful bidders pay the same price. Auctions are conducted with a closed order book, and each bidder can only see his own bids. The minimum bid is 500 allowances in auctions on the spot market and 1,000 allowances in auctions on the futures market.

## 1.2. Overview of the second quarter

Between April and June 2010 a total of 11,310,000 emission allowances (EUA) to a total value of 169,900,500 euros were auctioned. This is equivalent to average volume-weighted revenue per allowance of 15.02 euros. The deviation of clearing prices from volume-weighted reference prices in the lead markets in London (ECX) and Paris (BlueNext) in the period under review was -0.9 cent (-0.009 euro) or -0.058 per cent. The auctions could therefore be conducted, as in the period from January to March 2010, more or less parallel to the relatively volatile total market. This success was mainly guaranteed by the high frequency of weekly auctions on both the spot and the futures market, as well as by the greatest possible use of secondary market structures. In line with the positive total market trend, average revenue per allowance in the period under review was 2.01 euros or 15.45 per cent above corresponding figures of the preceding quarter. With 13 auctions on each market, the legally-prescribed total of 26 auctions was again realized in the second quarter.

Of the total auction volume, 7,410,000 emission allowances to a value of 111,919,500 euros (average price 15.10 euros) were auctioned on the futures market (MidDec2010) and 3,900,000 emission allowances to the value of 57,981,000 euros (average price 14.87 euros) on the spot market (see Table 1). Detailed auction results for each auction are displayed in Table 2 (spot) and Table 3 (futures).

During the 26 auctions, valid bids totalling almost 67 million emission allowances were entered into the trading system. Aggregated bidder demand in the period under review thus exceeded corresponding auction volume by a ratio of 5.91 ("times covered", see Table 1). With times-covered ratios of 5.96 on the futures market and 5.81 on the spot market, total demand was split relatively evenly, as in the preceding quarter, between the two auction markets.

Table 1: Overview of the second quarter 2010

Contract	Auctions	Total bid volume	Auction volume	Times covered	Clearing price	Revenue
Spot	13	22,676,000	3,900,000	5.81*	14.87 €*	57,981,000 €
Futures	13	44,149,000	7,410,000	5.96*	15.10 €*	111,919,500 €
<b>Total</b>	<b>26</b>	<b>66,825,000</b>	<b>11,310,000</b>	<b>5.91**</b>	<b>15.02 €**</b>	<b>169,900,500 €</b>

\* Period average

\*\* Volume-weighted average value

In contrast to the previous quarter, the average number of bidders at spot market auctions (6.6) was somewhat higher than the corresponding number at futures market auctions (6.2).

Particularly active participation at German spot market auctions could be observed at the beginning of the second quarter, immediately before the deadline of 30th April set for the surrender of allowances by operators of installations subject to emissions trading (cf. Chapter 2).

Clearing prices very close to the market again confirm the trend apparent in the first quarter, namely that in the competitive market environment at the EEX just a few bidders are sufficient to ensure efficient and fair market prices. It is also important that in relation to the auction volume sufficient potential bidders are active on the market that together can generate a sufficiently high total demand. Both conditions are obviously met in German auctions in the second quarter.

With regard to the forthcoming marked increase in annual Community-wide auction volumes in the third trading period, it clearly appears that smaller auctions of emission allowances can also be conducted successfully and efficiently at existing market places.

Nevertheless, EU legal requirements lay down minimum auction volumes at individual auctions in the third trading period that are clearly above present German volumes. Further information on auctions in the third trading period is provided in Chapter 4.

Table 2: Overview of auction dates in the second quarter 2010 (spot)

Auction dates	Total bid volume	Auction volume	Times covered	Clearing price	Revenue
06.04.2010	2,446,000	300,000	8.15	12.98 €	3,894,000 €
13.04.2010	2,401,000	300,000	8.00	13.39 €	4,017,000 €
20.04.2010	2,686,000	300,000	8.95	14.59 €	4,377,000 €
27.04.2010	2,021,000	300,000	6.74	15.30 €	4,590,000 €
04.05.2010	2,401,000	300,000	8.00	15.91 €	4,773,000 €
11.05.2010	1,775,000	300,000	5.92	14.98 €	4,494,000 €
18.05.2010	1,961,000	300,000	6.54	15.07 €	4,521,000 €
25.05.2010	1,191,000	300,000	3.97	14.72 €	4,416,000 €
01.06.2010	1,286,000	300,000	4.29	14.74 €	4,422,000 €
08.06.2010	1,511,000	300,000	5.04	15.12 €	4,536,000 €
15.06.2010	1,155,000	300,000	3.85	15.81 €	4,743,000 €
22.06.2010	731,000	300,000	2.44	15.48 €	4,644,000 €
29.06.2010	1,111,000	300,000	3.70	15.18 €	4,554,000 €
<b>June</b>	<b>5,794,000</b>	<b>1,500,000</b>	<b>3.86*</b>	<b>15.27 €*</b>	<b>22,899,000 €</b>
<b>April to June</b>	<b>22,676,000</b>	<b>3,900,000</b>	<b>5.81*</b>	<b>14.87 €*</b>	<b>57,981,000 €</b>

\* Period average



Table 3: Overview of auction dates in the second quarter 2010 (futures)

Auction dates	Volume of bids	Auction volume	Times covered	Clearing price	Revenue
07.04.2010	4,465,000	570,000	7.83	13.34 €	7,603,800 €
14.04.2010	5,211,000	570,000	9.14	14.03 €	7,997,100 €
21.04.2010	6,721,000	570,000	11.79	14.59 €	8,316,300 €
28.04.2010	5,356,000	570,000	9.40	15.20 €	8,664,000 €
05.05.2010	1,736,000	570,000	3.05	15.62 €	8,903,400 €
12.05.2010	5,211,000	570,000	9.14	16.04 €	9,142,800 €
19.05.2010	1,381,000	570,000	2.42	15.07 €	8,589,900 €
26.05.2010	2,665,000	570,000	4.68	15.35 €	8,749,500 €
02.06.2010	3,306,000	570,000	5.80	15.14 €	8,629,800 €
09.06.2010	1,950,000	570,000	3.42	15.85 €	9,034,500 €
16.06.2010	2,521,000	570,000	4.42	15.61 €	8,897,700 €
23.06.2010	1,305,000	570,000	2.29	15.36 €	8,755,200 €
30.06.2010	2,321,000	570,000	4.07	15.15 €	8,635,500 €
<b>June</b>	<b>11,403,000</b>	<b>2,850,000</b>	<b>4.00*</b>	<b>15.42 €*</b>	<b>43,952,700 €</b>
<b>April to June</b>	<b>44,149,000</b>	<b>7,410,000</b>	<b>5.96*</b>	<b>15.10 €*</b>	<b>111,919,500 €</b>

\* Period average

### 1.3. Overview of the current year

In the first half of 2010 a total of 22,620,000 EUAs to a total value of 316,994,100 euros were auctioned (average revenue per EUA: 14.01 euros). Of the total auction volume, 14,820,000 emission allowances to the value 208,637,100 euros (average revenue: 14.08 euros) were auctioned on the futures market (MidDec2010) and 7,800,000 emission allowances to the value of 108,357,000 euros (average price: 13.89 euros) on the spot market, in accordance with legal requirements. Cumulative auction results of the current year up to and including June 2010 are displayed in Table 4.

Taking into consideration the legally-required **annual basic volume** of 40 million emission allowances, there remains for the current year 2010 a provisional residual volume of currently 17,380,000 EUAs. Between January and June 2010, 56.55 per cent of the annual basic volume was auctioned.

Allowances from the national reserve are additionally auctioned to cover the costs incurred by the Federal Government in the exercise of its duties and responsibilities in connection with emissions trading. Since this **annual refinancing volume** of EUAs is deduced from average clearing prices of the calendar months January to October, it is presently undetermined, and will be announced by the DEHSt in accordance with legal requirements by 5 November 2010 at the latest.

The **annual total volume** of EUAs, as the sum of the annual basic volume and the annual refinancing volume, will be finally determined only at the beginning of November 2010. In the years 2008 and 2009, the refinancing volume amounted in each year to about 1 million EUAs, resulting in a respective annual total volume of about 41 million EUAs.

Table 4: General survey of the current year 2010

Month	Contract	Auctions	Volume of bids	Auction volume	Times covered	Clearing price	Revenue
<b>January</b>	Spot	4	7,045,000	1,200,000	5.87*	13.02 €*	15,624,000 €
	Futures	4	19,463,000	2,280,000	8.54*	13.08 €*	29,816,700 €
<b>February</b>	Spot	4	6,633,000	1,200,000	5.53*	12.89 €*	15,465,000 €
	Futures	4	13,337,000	2,280,000	5.85*	13.03 €*	29,702,700 €
<b>March</b>	Spot	5	7,778,000	1,500,000	5.19*	12.86 €*	19,287,000 €
	Futures	5	11,101,000	2,850,000	3.90*	13.05 €*	37,198,200 €
<b>April</b>	Spot	4	9,554,000	1,200,000	7.96*	14.07 €*	16,878,000 €
	Futures	4	21,753,000	2,280,000	9.54*	14.29 €*	32,581,200 €
<b>May</b>	Spot	4	7,328,000	1,200,000	6.11*	15.17 €*	18,204,000 €
	Futures	4	10,993,000	2,280,000	4.82*	15.52 €*	35,385,600 €
<b>June</b>	Spot	5	5,794,000	1,500,000	3.86*	15.27 €*	22,899,000 €
	Futures	5	11,403,000	2,850,000	4.00*	15.42 €*	43,952,700 €
<b>January to June</b>	<b>Spot</b>	<b>26</b>	<b>44,132,000</b>	<b>7,800,000</b>	<b>5.66*</b>	<b>13.89 €*</b>	<b>108,357,000 €</b>
	<b>Futures</b>	<b>26</b>	<b>88,050,000</b>	<b>14,820,000</b>	<b>5.94*</b>	<b>14.08 €*</b>	<b>208,637,100 €</b>
<b>Total</b>		<b>52</b>	<b>132,182,000</b>	<b>22,620,000</b>	<b>5.84**</b>	<b>14.01 €**</b>	<b>316,994,100 €</b>

\* Period average

\*\* Volume-weighted average value

## 2. BIDDER PARTICIPATION

### 2.1. Participation

The total volume of 11.31 million emission allowances auctioned in the second quarter was spread among 86 successful bidders. Of these 86 bidders, 44 bid on the futures market and 42 on the spot market. The number of successful bidders in the period under review was therefore slightly under that for the preceding quarter (95). In all, 167 bidders actively participated in auctions in the second quarter. From the bidder perspective, since the decrease in the number of active participants was relatively greater than that of successful bidders, the average success rate over all 26 auctions increased to just over 51 per cent.<sup>3</sup>

In contrast to the first quarter of 2010, average participation of just over 6 bidders (6.2) in auctions on the futures market in the second quarter was somewhat lower than the corresponding figure for the spot market, where average participation was markedly higher than 6 bidders (6.6). The total number of participants on both markets fell below the threshold of five bidders in only 3 of 26 auctions. Active bidder participation on the spot market therefore remained stable compared to the preceding quarter, while fewer bidders were active on the futures market.

Figures 1 and 2 illustrate the structural trend in numbers of participants on the spot and futures market, respectively. As in the first quarter, bidder participation on both markets fluctuated considerable between 10 and 4 bidders (spot) and 9 and 4 (futures). In contrast to the futures market, however, a clear temporal pattern can be identified for spot market activities. Here, there is outstanding participation at the beginning of the second quarter, immediately before the deadline of 30th April set for the surrender of allowances by operators of installations subject to emissions trading.

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<sup>3</sup> Since exchange members can enter bids at several auctions, the number of participating bidders and successful bidders does not necessarily correspond to the number of different exchange members that have participated in auctions in the period under review. It has also to be considered that indirect participation of bidders via intermediaries, such as banks and brokers, is not reflected in the numbers of participants mentioned. These merely take into account exchange members that participate directly in auctions as intermediaries, but not third-parties as indirect bidders.

Bidder participation, with 8 to 10 bidders, was significantly above that of the period from May to June, during which a relatively stable number of 4 to 6 exchange members registered for the auctions. This distinct temporal connection is absent on the futures market. Short-term physical settlement of spot market transactions and the accompanying control over emission allowances explain the identified peak participation prior to the compliance deadline for plant operators at the end of April. This can be regarded as a strong indication that auction design at the EEX has been accepted, particularly by "compliance buyers", as an efficient and attractive method of emission allowance allocation.

In contrast to active participation, the number of successful bidders in both market segments fluctuates much less strongly than in the preceding quarter. Merely in three auctions were more than 4 or less than 2 bidders successful. What is noticeable in this connection, apart from the growing convergence of both submarkets, is the absence of significant dependency between active bidder participation and the corresponding number of successful bidders. Reduced participation subsequent to the plotted peak participation on the spot market does therefore not lead to a parallel fall in the number of successful bidders. Such a correlation is also not to be observed on the futures market. Against the backdrop of constant volumes on offer, however, this failing dependency appears to be quite plausible. In the final analysis, this is indicative of increasingly-stabilizing bidding structures.

The average volume of auctioned allowances per successful bidder amounted to 92,857 allowances on the spot market and 168,409 allowances on the futures market. The average volume of purchased allowances is therefore still comparable with auctions in the UK, which are conducted only monthly or bi-monthly. This is striking insofar as the volumes offered per auction, due to lower auction frequency, are considerably larger than in Germany. Efficiently-designed auctions can therefore lead, irrespective of the volumes offered, to fair market prices and similar volumes of purchased allowances for successful bidders.

### Participants spot market

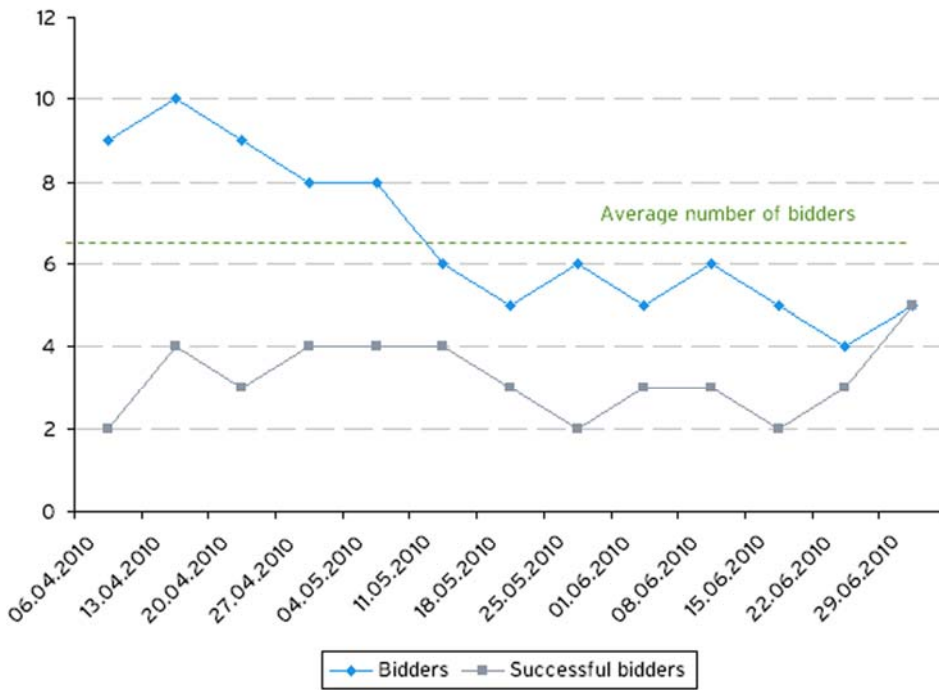


Figure 1: Bidders and successful bidders in the second quarter 2010 (spot)

### Participants futures market

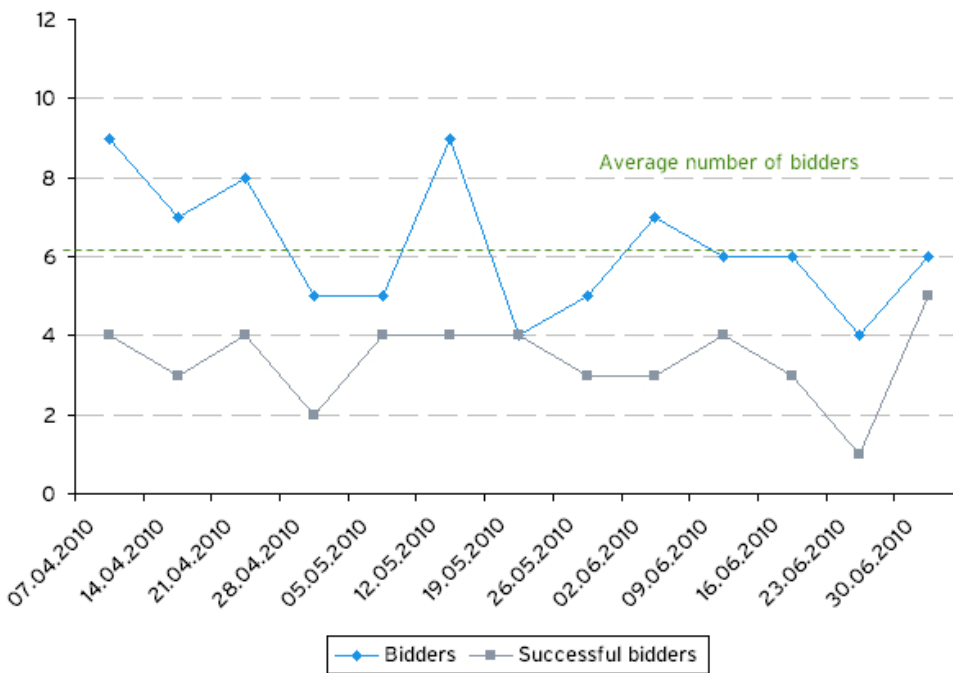


Figure 2: Bidders and successful bidders in the second quarter 2010 (futures)

## 2.2. Quantitative demand

In the period under review, aggregate bid volumes per auction on the spot market fluctuated between 0.73 and 2.69 million allowances. Demand peaks with over 2 million bids could be observed parallel to particularly high bidder participation in April, immediately before the deadline of 30th April set for the surrender of allowances by operators of installations subject to emissions trading (cf. Section 2.1). On the futures market the corresponding quantity interval was between 1.31 and 6.72 million allowances. As in the preceding quarter, the range of demand at auctions of futures was therefore much greater than on the spot market (cf. Figure 3). In line with the demand trend on the spot market, particularly high bid volumes in excess of 4.5 million allowances were observed between April and mid-May on the futures market. An exception was May 5th (calendar week (CW) 18), with somewhat more than 1.7 million bids.

For assessment of this apparent strongly-declining demand for futures on May 5th it has to be taken into account that bids placed in the order book by individual bidders are unlimited in terms of number and volume. Theoretically, bidders can make multiple bids with a total volume that is above the auction volume of 300,000 allowances on the spot market or 570,000 allowances on the futures market. Such a procedure is unobjectionable from a procedural point of view, and enables bidders to make staggered bids in line with the development of the reference price on the lead market. Since bid volumes of a bidder that lie above the tendered quantity may not be successful, they do not constitute economically relevant additional demand and have therefore to be considered in the assessment of peaks or drops in demand.

A sufficient but not necessary indication of such bidder behaviour is found on observing average bid volumes per bidder that lie above the volume offered at each auction. In these cases, the bids of at least one bidder have to lie above the auction volume of 300,000 (spot) or 570,000 (futures) allowances. With average bids in excess of 570,000 allowances it could be observed that corresponding limits were exceeded on the futures market in calendar weeks 15 to 17 as well as in week 19, but not, however, in calendar week 18 and thus simultaneous with the above-described sharp drop in demand. In this respect, the unusually-high volumes in demand on the futures market around calendar week 18 must be qualified to the extent that they partly reflect strategically-timed bids. A corresponding bidder-side approach could also be observed in the first quarter of 2010, and is basically not uncommon in the auctioning of emission allowances.

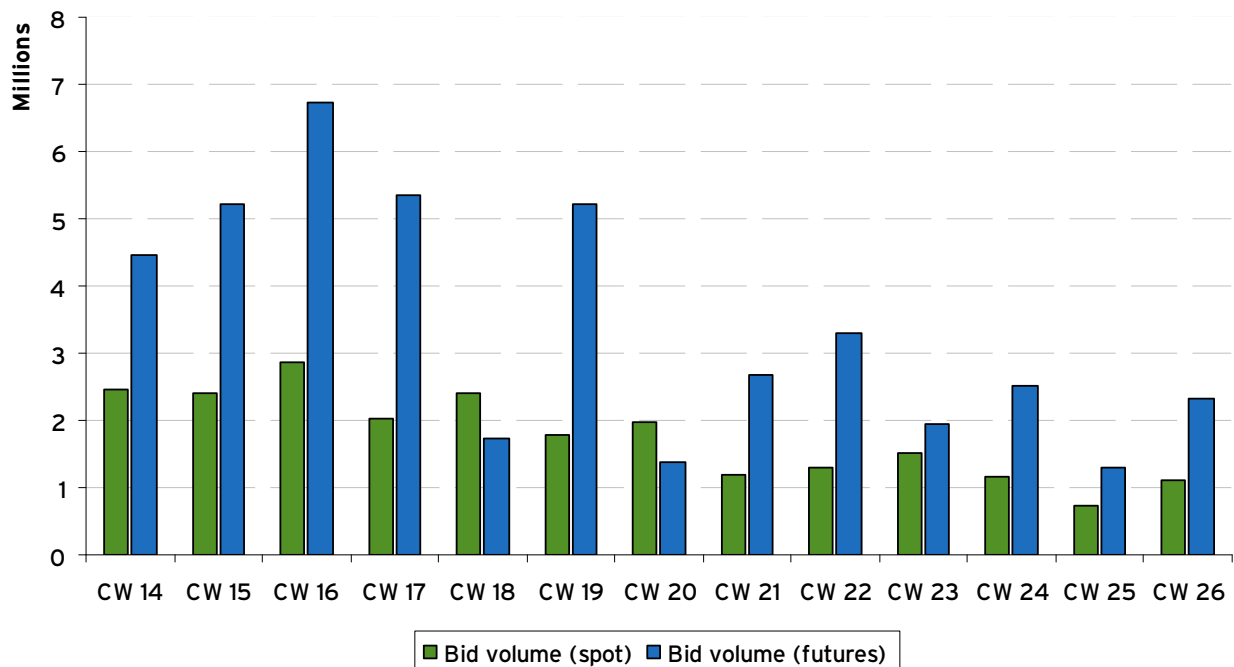


Figure 3: Bid volumes on the futures and spot markets in the second quarter 2010

### 2.3. Bid and clearing prices

In accordance with customary procedure throughout the European Union, German auctions at the EEX are conducted at a uniform price, in a single round of bidding and with a closed order book. This straightforward and - as far as market manipulation is concerned - highly stable auctioning procedure will continue to be applied at auctions in the third trading period. Further information on auction in the third trading period is provided in Chapter 4. With the uniform price method, all successful bidders pay the same price. The corresponding clearing price is established by ranking all eligible bids, beginning with the highest bid, according to the bid price. In the case of tied bid, the bids are additionally-ranked according to the time they were entered, beginning with the earliest bid ("first-come-first-served principle"). Starting with the highest bid, the volumes of the bids are aggregated until the volume of emission allowances on offer (300,000 (spot) and 570,000 (futures)) is reached. The bid price at which the aggregate volume of bids reaches or exceeds the offered volume of auctioned allowances determines the auction clearing price.

Bidders receive allowances equivalent to the quantity for which they have bid, provided that their bid price is at least equal to the auction clearing price. If a bidder has matched the clearing price his allocation corresponds to the quantity remaining on offer after allocation to bidders at higher prices. Depending on the bidding structure, this residue volume can also lie below the volume demanded by this bidder. If several bidders have offered the clearing price, the above-mentioned "first-come-first-served" principle is applied. To illustrate the principle underlying such allocation, the differences between the highest bid made in an auction and the corresponding auction clearing price during the second quarter are displayed in Figure 4. At a uniform-price auction, these differences precisely define the price range in which all bids are located that might be successful.

In line with the disclosed trend in the number of successful bidders, with bid prices, too, a stronger convergence of spot and futures markets compared to the preceding quarter could be observed in the period under review. It is noticeable that at only two auctions in each market segment was the clearing price less than 5 cents below the corresponding highest bid. In the preceding quarter, this was the case at 11 auctions. In contrast to the first quarter, at no auction in the second quarter were bids at the highest price limit market-clearing bids and thus identical with the clearing price. This trend in bids could ultimately have contributed to the above-mentioned stabilization in the number of successful bidders. The achieved clearing prices, as in the first quarter, matched in each case current reference prices on the lead markets (see Chapter 3).

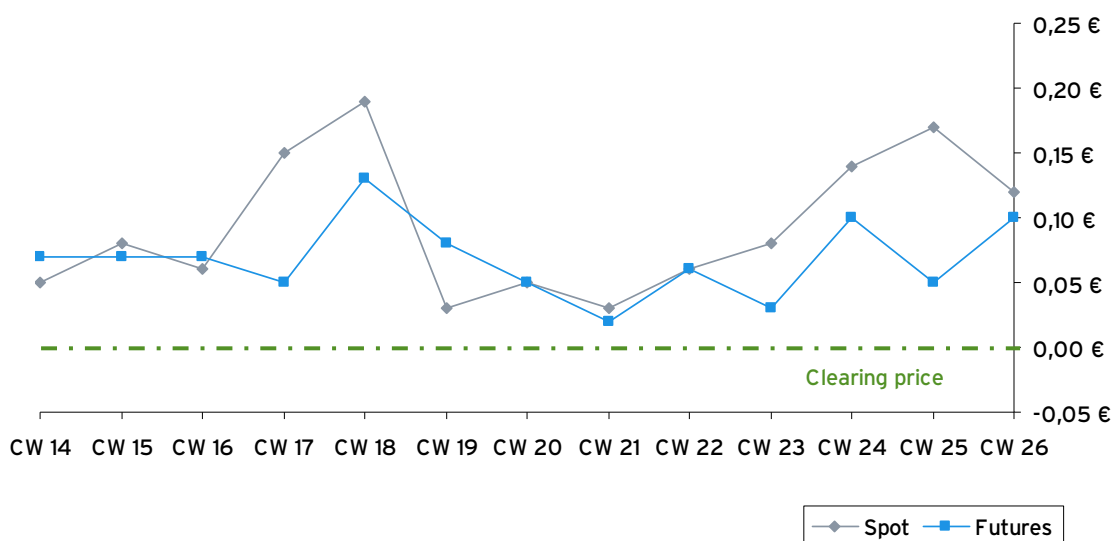


Figure 4: Differences between maximum bid and clearing price in the second quarter 2010



## 3. AUCTIONS AND THE SECONDARY MARKET

### 3.1. Trading volume on the secondary market

The total of 11.31 million emission allowances that were auctioned by the KfW between April and June 2010 stood in contrast to a greatly increased cumulative trading volume, compared to the preceding quarter, of about 1.27 billion allowances on the secondary market in the period under review.<sup>4</sup> The average share of German auctions in the relevant total market therefore fell in the period under review to 0.89 per cent, compared to just below 1.3 per cent in the preceding quarter. The weekly share of auctions on the futures market fluctuated between 0.4 and 1.2 percent (an average of 0.7 per cent).

The fluctuation interval on the spot market was at a somewhat higher level between 1.2 and 4.1 per cent (an average of 2.3 per cent). The particularly-low relative proportion of German spot auctions with an fluctuation interval below 2 per cent could be observed at the beginning of the second quarter, immediately before the deadline of 30th April set for the surrender of allowances by operators of installations subject to emissions trading, and can be explained by constant auction volumes. The peaks in demand and participation at German spot auctions, which were identified in Chapter 2, developed in line with greatly increased spot trading volumes in this period. This can be regarded as positive, and shows that the design of German auctions on the EEX is appreciated to the same extent as transactions on the secondary market by operators of installations that are subject to emissions trading.

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<sup>4</sup> This perspective is limited to transaction for immediate delivery (spot) and futures contracts with maturity in December 2010 that are traded on the ECX, BlueNext, EEX, Climex and NordPool exchanges. This covers transactions that were screen traded at the respective exchange, or bilateral transactions that at least made use of the clearing mechanism of the exchange. Options in general as well as futures contracts with different maturities are not considered.

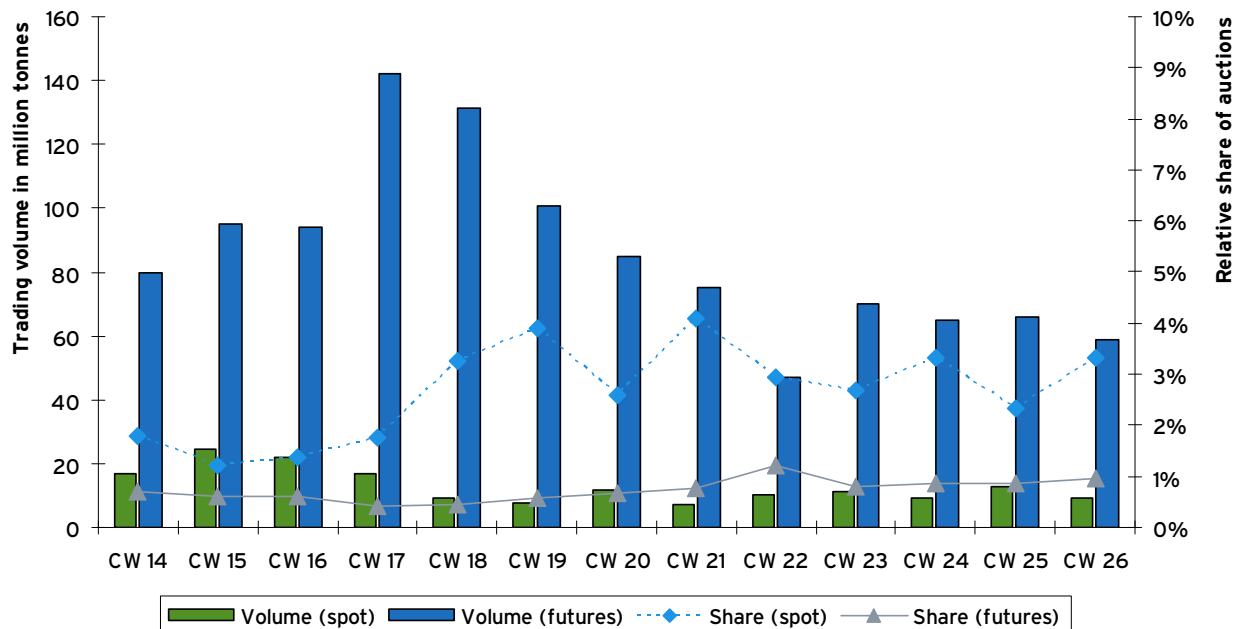


Figure 5: Trading volume on the secondary market and relative share of spot and futures auctions in the second quarter 2010

### 3.2. Clearing prices and price development on the secondary market

Reference prices of the respective most liquid market places serve as appropriate benchmarks for assessment of clearing prices achieved at auctions in the second quarter. The reference contract for the auction of the futures MidDec10 is the Dec10 future traded on the ECX in London. The BlueNext EUA spot market provides the benchmark for spot market auctions.

Figure 6 shows the clearing prices of German spot auctions in the context of the historic price curve on the Paris spot market. Instead of a restriction on settlement prices, which is customary in many places, all trades concluded on the BlueNext in the second quarter are considered for the purpose of integral analysis in this examination.<sup>5</sup> In the three-month period under review, trading prices fluctuated considerably between 12.50 and 16.50 euros. It has to be borne in mind that this fluctuation of 4 euros is restricted to the short period between early April and early May, and can be characterized by a relatively constant growth path.

<sup>5</sup> The settlement price is defined as the daily closing price determined at exchanges. As a rule, settlement prices merely describe trading activity immediately prior to closure of the market, and are therefore only of limited application in describing the secondary market.

By contrast, the remaining two-month period to the end of June was characterized by short-term fluctuation of the trading price by an average of somewhat over 15 euros. The volume-weighted average price for an emissions allowance of all spot contracts traded in Paris in the second quarter was 14.81 euros.

As shown in Figure 6, auctions in both periods of the second quarter were conducted more or less synchronous to the lead market in Paris.<sup>6</sup> Clearing prices in spot auctions fluctuated in this volatile market environment between 12.98 and 15.91 euros and thus less strongly than on the lead market. The average clearing price at spot auctions was 14.87 euros, and thus 6 cents (0,06 euro) or 0.405 per cent above the volume-weight secondary-market average. This is striking in as much as the secondary market average price is based on a middle four-digit number of transactions, while the average clearing price of German spot market auctions is based merely on 13 individual auctions. The design of German auctions proved, under varied market conditions, to be an appropriate instrument for representation of total market development based on a much greater number of trades.



Figure 6: Clearing prices and trading prices on the BlueNext spot market in the second quarter 2010 (spot)

<sup>6</sup> In considering Figure 6, it has to be borne in mind that, depending on real market conditions, varying numbers of transactions are plotted per unit of time. The intervals between clearing prices and the months on the time axis therefore also vary in the chart, although in each case exactly one week lies between the consecutive auctions.

The trend in prices on the futures market was almost parallel to the trend on the spot market described above. Trading prices on the ECX fluctuated in the second quarter, just as strongly as the spot trading price, between 12.65 and 16.73 euros, but showed the customary mark-up compared to spot contracts. On account of the considerably larger number of transactions, compared to the spot market, graphical representation of individual trades serves little purpose. As an alternative, Figure 7 displays volume-weighted daily average prices on the ECX together with clearing prices at auctions on the German futures market. Analogous to spot auctions, auctions on the futures market in the second quarter were conducted more or less synchronous to the lead market in London. Clearing prices at auctions on the futures market also fluctuated, depending on the reference price in London, between 13.34 and 16.04 euros, but less strongly than the lead market.

The volume-weighted average price for delivery of one emission allowance as a futures contract with maturity in December 2010 over all contracts traded in London was 15.15 euros. The average clearing price at German primary market auctions was 15.10 euros, just 5 cents (0.05 euro) or 0.301 per cent below this volume-weighted secondary market average. That the resulting deviation on the futures market is even smaller than on the spot market is all the more striking, when one considers that the 13 auctions have to cope with more than 100,000 individual transactions on the secondary market.

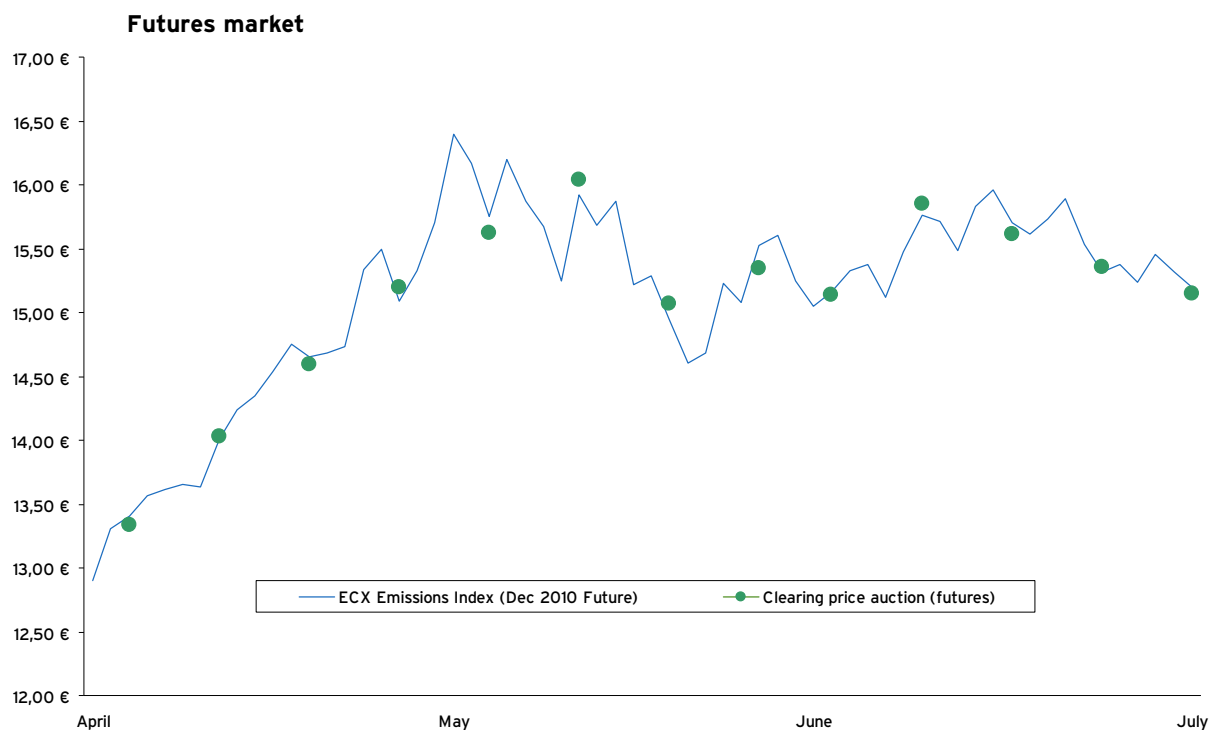


Figure 7: Clearing prices and ECX emissions index (Dec 2010 future) in the second quarter 2010 (futures)

In overall view of all 26 auctions on the spot and futures market, the volume-weighted deviation of clearing prices from the lead markets in London and Paris in the period under review was merely -0.9 cent (-0,009 euro) or -0.058 per cent, and thus lower than in the preceding quarter, in which the resulting total deviation amounted to -0.210 per cent.

Supplementing periodic market analysis, Tables 5 and 6 show the relative deviation of clearing prices at auctions on the spot and futures markets from the respective lead market immediately before the end of bidding windows. Both the last trade and the last best bid are used as references prices.<sup>7</sup> In comparisons of individual trades or bids on the secondary market with auction results, it has in principle to be considered that in auctions comparably large volumes are involved in a single offer. The indicators "last best bid" and "last trade" normally relate to lower volumes than in auctions. Due to the lack of alternatives, the use of these indicators nevertheless appears to be useful.

<sup>7</sup> The bid with the current highest bid price in the order book is termed the best bid.

As shown in Table 5, the average deviation of clearing prices in spot auctions from the reference price (last best bid) on the BlueNext in the period under review amounted to -0.044 per cent, and was therefore lower than in the preceding quarter. The deviation spread fluctuated between -0.224 and +0.265 per cent. On the futures market, the deviation from the ECX ranged from -0.454 to +0.064 per cent, and was on average -0.112 per cent. As in the preceding quarter, at 7 of the 26 auctions the best bid at the respective lead market was exactly matched.

Comparison of clearing prices with settlement prices of the respective last transaction resulted in an average deviation of -0.266 per cent on the spot market, and -0.175 per cent on the futures market. Deviations fluctuated over both markets between -0.583 and +0.064 per cent. On one occasion the last traded price was exactly matched.

Short- and medium-term price analysis therefore strikingly shows that German auctions in the second quarter of 2010 were conducted almost synchronous to developments on the secondary market and are therefore appropriate for precise representation of overall market development, also under varying conditions.

Table 5: Clearing prices and reference prices immediately before the end of the bidding window (spot)

Auction date	Clearing price	Deviation from BlueNext spot market	
		Last best bid	Last trade
06.04.2010	12.98 €	-0.154%	**
13.04.2010	13.39 €	-0.224%	-0.224%
20.04.2010	14.59 €	0.000%	-0.205%
27.04.2010	15.30 €	-0.196%	-0.326%
04.05.2010	15.91 €	0.000%	-0.251%
11.05.2010	14.98 €	-0.133%	**
18.05.2010	15.07 €	0.000%	**
25.05.2010	14.72 €	-0.203%	**
01.06.2010	14.74 €	0.136%	-0.271%
08.06.2010	15.12 €	0.265%	**
15.06.2010	15.81 €	0.000%	**
22.06.2010	15.48 €	0.000%	-0.322%
29.06.2010	15.18 €	-0.066%	**
<b>June</b>	<b>15.27 €* </b>	<b>0.067%*</b>	<b>-0.296%*</b>
<b>April to June</b>	<b>14.87 €* </b>	<b>-0.044%*</b>	<b>-0.266%*</b>

\* Period average

\*\* No transactions during the last ten minutes of the bidding window

Table 6: Clearing prices and reference prices immediately before the end of the bidding window (futures)

Auction dates	Clearing price	Deviation from ECX futures market	
		Last best bid	Last trade
07.04.2010	13.34 €	-0.075%	-0.299%
14.04.2010	14.03 €	-0.142%	-0.213%
21.04.2010	14.59 €	-0.137%	-0.273%
28.04.2010	15.20 €	-0.066%	-0.131%
05.05.2010	15.62 €	0.064%	0.064%
12.05.2010	16.04 €	-0.062%	-0.062%
19.05.2010	15.07 €	-0.066%	-0.133%
26.05.2010	15.35 €	-0.130%	-0.260%
02.06.2010	15.14 €	0.000%	-0.066%
09.06.2010	15.85 €	0.000%	-0.063%
16.06.2010	15.61 €	-0.256%	-0.256%
23.06.2010	15.36 €	-0.454%	-0.583%
30.06.2010	15.15 €	-0.132%	0.000%
<b>June</b>	<b>15.42 €* </b>	<b>-0.168%*</b>	<b>-0.193%*</b>
<b>April to June</b>	<b>15.10 €* </b>	<b>-0.112%*</b>	<b>-0.175%*</b>

\* Period average

## 4. EXCURSUS: AUCTIONS IN THE THIRD TRADING PERIOD

On 14 July 2010, representatives of all 27 EU Member States agreed on common regulations for emission allowance auctions in the third trading period of the European Emission Trading System (ETS). The proposal of the European Commission for a *Regulation on the timing, administration and other aspects of the auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC ("Auctioning Regulation")* will enter into force after a three-month consultative stage in October of this year. The following review presents its most important provisions.

### 4.1. Scope

In simplified terms, the Auction Regulation applies for all allocations through auction of emission allowances for aviation activities as from 2012 and for stationary installations as from 2013. This also includes, where applicable, early auctions of allocations for the years 2013 and 2014. The Emissions Trading Directive provides for auctioning of emission allowances for stationary installations as a fundamental allocation principle, and for aviation activities as a supplementary allocation method. According to current estimates, in the third trading period roughly 50 per cent of the Community-wide allocation volume will be allocated in accordance with the proposed Auctioning Regulation. It has to be borne in mind that under the ETS different emissions allowances are allocated to stationary installations than to the aviation sector.

### 4.2. Concept

The legal framework of the proposed Auctioning Regulation offers ETS participants in future a harmonized, non-discriminatory and cost-efficient access to the European primary market for emission allowances. Not least as a result of positive experiences with German auctions in the current trading period, future procedures should also be largely implemented making use of existing secondary market infrastructures. Auctions should therefore in future only take place on trading platforms that are part of regulated markets.

Besides participation in a platform appointed by Member States in a joint action with the European Commission (common platform), Member States that do not participate in the joint action have the opportunity to operate their own platforms. This way, bidders can in future participate in such auctions as best suit their individual needs. The danger of distortion of competition on the secondary market can therefore be restricted to the greatest possible extent.



An auction calendar that is co-ordinated Community-wide as well as harmonized and non-discriminating access conditions and a single auction monitor for all platforms constitute important safety mechanisms for stable auctions with much greater volumes in the third trading period.

### **4.3. Procedure**

Auctions will be conducted also in the future on the basis of the proven uniform-price procedure with a single round of bidding and closed order book (Cf. Section 2.3), which has proven its worth on the European Energy Exchange EEX in Leipzig. There will be changes, however, compared to the present German system; for instance, in the treatment of tied bids. In contrast to the German procedure, tied bids will in future no longer be decided on the basis of the timing of a bid, but rather by random selection. Compared to the present situation, the selection of products to be auctioned will be restricted. Futures contracts auctioned by Germany for delivery of an emissions allowance in December of the current year may in future only be offered on an interim basis within the scope of early auctions for the allocation years 2013 and 2014. In principle, Member States will then only be able to choose between different products for immediate delivery, that is within five days at the most. Unchanged, however, are minimum bids of 500 allowances on the spot market and 1,000 allowances on the futures market.

All relevant information, such as auction volumes for early auction by Member States, the type of product on offer as well as the name, period of appointment and regulations of individual platforms, will be compiled and published in the technical annexes of the proposed Auctioning Regulation. In the case of platforms appointed by Member States in joint action with the European Commission, the auction calendar will be published by 28 February of the preceding year at the latest. All other platforms will publish their calendars by 31 March of the respective year. The first calendar for aviation activities for the allocation year 2012 will be published by 30 September 2011.

### **4.4. Participation**

In order, on the one hand, to enable high bidder participation, and in particular, direct access on the part of operators of installations subject to emissions trading as well as aviation operators, and, on the other hand, to guarantee the reliability and integrity of auctions, minimum demands on appropriate access controls have been formulated.

These access conditions, which are based on practices on the secondary market, basically allow access to auctions on the part of persons not subject to emissions trading. Besides direct internet participation, the proposed Auctioning Regulation also enables indirect access via admitted financial intermediaries that are admitted to the respective exchange. Other persons subject to authorization by Member States can also act as intermediaries, provided they are in possession of such authorization (approved primary participants). In accordance with present practice on German primary market auctions, members already admitted to the secondary market of a platform can in future directly participate in auctions at no additional cost. The fees for participation in auctions may in future also not exceed comparable standard fees on the secondary market.